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## Patent claims

1. An arrangement with an implant (5, 13) and/or a  
5 unit (9), e.g. spacer sleeve, belonging to said  
implant, which is/are intended to extend through a  
hole (4') formed in jaw bone (2) and through soft  
tissue (3) belonging to the jaw bone and to  
10 comprise one or more outer layers consisting  
principally of titanium dioxide, characterized in  
that each layer consists of crystalline titanium  
dioxide which largely or completely assumes the  
anatase phase.
- 15 2. The arrangement as claimed in patent claim 1,  
characterized in that anatase is present in a  
proportion of 70 - 100% in each layer (7).
- 20 3. The arrangement as claimed in patent claim 1 or 2,  
characterized in that each layer has a thickness  
in the thickness range of 0.05 - 10  $\mu\text{m}$ , preferably  
0.5 - 10  $\mu\text{m}$ .
- 25 4. The arrangement as claimed in patent claim 1, 2 or  
3, characterized in that large parts of the outer  
surface or outer surfaces of the implant and/or of  
the unit are provided with the crystalline  
titanium dioxide largely assuming the anatase  
30 phase.
5. The arrangement as claimed in any of patent claims  
1 - 3, characterized in that one or more outer  
surfaces of the implant and/or unit are provided  
with the crystalline titanium dioxide largely  
35 assuming the anatase phase.
6. The arrangement as claimed in any of patent claims  
1 - 5, characterized in that the implant comprises  
and/or the unit consists of or comprises a portion

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which can be placed against the soft tissue and which, by means of its crystalline titanium dioxide layer in the anatase phase, is intended to afford excellent or good soft tissue integration.

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7. The arrangement as claimed in any of patent claims 1 - 6, characterized in that each titanium dioxide layer in the crystalline anatase phase comprises bone stimulation substance, e.g. BMP, and/or
- 10 substance (further) stimulating soft tissue integration.
8. The arrangement as claimed in any of the preceding patent claims, characterized in that an outer
- 15 thread located on the implant and/or the unit is provided with outer layers of crystalline titanium dioxide largely assuming the anatase phase.
9. The arrangement as claimed in any of the preceding patent claims, characterized in that the portion
- 20 of the implant and/or unit that can be placed against the soft tissue comprises a threadless outer surface.
- 25 10. The arrangement as claimed in any of the preceding patent claims, characterized in that the portion or surface (9a) extending through the soft tissue is coated with layers of crystalline titanium dioxide in the anatase phase along, for example,
- 30 2/3 of its length, and the remaining length or surface (9b) of said portion constituting a part directed away from the implant can be substantially amorphous, rutile, or also in the anatase phase, and the length section with anatase
- 35 can interact with the soft tissue in the connective tissue area (12).
11. A method for producing a dental implant (5, 13) and/or a unit (9) belonging to said implant with

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one or more outer layers of titanium dioxide, characterized in that it is an anodic oxidation method in which the part or parts bearing said outer layers is/are applied to liquid (10) or electrolyte under voltage, for example comprising sulfuric acid and phosphoric acid, and the voltage (U) and the dwell time of the part or parts in the liquid or electrolyte are chosen such that titanium dioxide, largely or completely assuming the crystalline anatase phase, is formed.

12. The method as claimed in patent claim 11, characterized in that, for a given or predetermined first concentration of electrolyte, the voltage (U) is chosen with a first value in the range of 100 - 270 volts, and in that, at a second concentration or composition of electrolyte, the voltage is chosen with a second value, etc.

13. The method as claimed in patent claim 11 or 12, characterized in that the crystalline titanium dioxide is supplemented with a growth-stimulating substance, e.g. BMP, and/or measures.